



ORIGINAL RESEARCH—PSYCHOLOGY

Insecure Attachment Style and Dysfunctional Sexual Beliefs Predict Sexual Coercion Proclivity in University Men

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ABSTRACT

Introduction. Past studies have shown an association between low sexual functioning and engaging in sexually coercive behaviors among men. The mechanism of this relationship is not well understood. Moreover, most studies in this area have been done in incarcerated sex offenders.

Aims. The aim of the current study was to investigate the role of potential distal predictors of sexual coercion, including insecure attachment style and dysfunctional sexual beliefs, in mediating the relationship between sexual functioning and sexual coercion. The study also seeks to extend past findings to a novel non-forensic population.

Methods. Male university students ($N = 367$) anonymously completed online questionnaires.

Main Outcome Measures. Participants completed the Sexual Experiences Survey, Improved Illinois Rape Myth Acceptance Scale, Hostility Towards Women Scale, Likelihood of Rape Item, Experiences in Close Relationships Scale, Dysfunctional Sexual Beliefs Scale, and Brief Sexual Functioning Questionnaire.

Results. Sexual functioning was not significantly associated with sexually coercive behaviors in our sample ($r = 0.08$, $P = 0.247$), though a significant correlation between sexual functioning and rape myth acceptance was found ($r = 0.18$, $P = 0.007$). Path analysis of all variables showed that the likelihood of rape item was the strongest correlate of sexually coercive behaviors ($\beta = 0.34$, $P < 0.001$), while dysfunctional sexual beliefs appeared to mediate the association between anxious attachment and likelihood of rape item score. Anxious ($r = -0.27$, $P = 0.001$) and avoidant ($r = -0.19$, $P = 0.004$) attachment also correlated significantly with lower sexual functioning.

Conclusions. These findings suggest the relationship between sexual functioning and sexual coercion may be less robust than previously reported, and may be due to a shared association with other factors. The results elaborate on the interrelation between attachment style and dysfunctional sexual beliefs as predictors of sexual coercion proclivity, suggesting avenues for further research. **Dang SS and Gorzalka BB. Insecure attachment style and dysfunctional sexual beliefs predict sexual coercion proclivity in university men. Sex Med 2015;3:99–108.**

Key Words. Sexual Coercion; Attachment Style; Dysfunctional Sexual Beliefs; Sexual Functioning; University Students

Introduction

Sexual coercion is a broad term that can refer to a wide range of behaviors, ranging from the use of manipulation and pressure to obtain sexual

activity to violent sexual assault. One persistent finding of research on this topic is the association between sexually coercive behaviors, including both rape and child molestation, and sexual dysfunctions. This finding has been consistent across

multiple studies in inmate samples [1,2] and has also been seen in some community populations. For example, Carvalho et al. [3] reported that male undergraduate university students high in sexual aggression had significantly higher levels of dysfunction in erectile functioning and ejaculation.

The mechanism of the association between sexual coercion and sexual functioning has not been well explained. It has been suggested that sexual dysfunctions may be a direct cause of increased coercive behaviors, perhaps because of the aggressor's response to sexual performance failure [3]. This is potentially supported by sexual performance failures during sexual assault being associated with more physical violence [4] and erectile dysfunction in response to fear of performance failure predicting sexual coercion [5]. However, it is possible that both increased sexual coercion proclivity and decreased sexual functioning are caused by disruptions to cognitions, emotions, and beliefs related to sexuality, gender roles, and interpersonal relationships. This "third-variable" explanation is consistent with evidence showing that sexual coercion is associated with deficits in a range of psychosocial variables [6–9].

Insecure attachment style appears to be one possible factor that may explain the shared variance between sexual coercion and sexual functioning. A growing body of evidence suggests that men who engage in sexual coercion often display higher levels of attachment-related difficulties. Incarcerated sex offenders have been found to score higher on insecure attachment compared with nonsexual offenders [10,11]. Higher insecure childhood attachment and greater levels of early maladaptive schemas were correlated with engagement in sexually aggressive behaviors in male undergraduate students [12,13]. Given that insecure attachment style develops from disruptions to early caregiver experiences [14,15], these findings are unsurprising in light of the fact that sexual offenders also tend to have parents who were uncaring and abusive [11,16]. There is also an expanding body of evidence to suggest that attachment is associated with variations in sexual functioning [17–19]. Though the relationship between sexual functioning and attachment style has primarily been investigated in women, unpublished data from our group suggest a similar pattern may exist in men.

Another potential predictive factor may be dysfunctional sexual beliefs: cognitions, attitudes, and expectations about sexuality [20]. In men, these include sexual conservatism, need for sexual control, importance of sexual competency, impor-

tance of satisfying sexual partners, and restriction on types of acceptable sexual activities. Some of these beliefs appear similar to negative views of sexuality and stereotypical view of gender roles seen among sex offenders [7,10], and may reflect the manifestation of early maladaptive schemas in the sexual domain [14]. Dysfunctional sexual beliefs have been shown to distinguish between men with and without diagnosable sexual dysfunctions [21]. These findings suggest that dysfunctional sexual beliefs may mediate the association between attachment style, sexual functioning, and sexual coercion.

The current study will employ a variety of measures to assess cognitive, emotional, and motivational aspects of sexual coercion proclivity. Acceptance of rape myths [22,23] and hostility toward women [24] will be used as cognitive and emotional indicators, respectively. A likelihood of rape measure, which has been suggested to reflect level of desire and interest toward sexual coercion [25], will also be used.

Aims

The current study seeks to extend existing data on the association between sexual coercion and sexual functioning, and examine the extent to which attachment style and dysfunctional sexual beliefs may mediate this association in a population of university men.

Methods

Participants

Participants for this study were male undergraduate students at a major Canadian university. In total, 412 participants consented to participate in the study and completed the questionnaire battery. Of these, 45 were excluded for not indicating exclusively or primarily heterosexual as their sexual orientation ($N = 367$). Only male heterosexual participants were included as some of the sexual coercion measures used in this study have been validated in heterosexual male populations and contain items relevant only to heterosexual sexual interactions with males as the sexual aggressor. Demographic variables of the participants are presented in Table 1, and in all cases were self-reported.

Sexual coercion commission/admission rates, as measured by the Sexual Experiences Survey—Male/Perpetrator Form (SES) [26], are presented

Table 1 Demographic variables of participants

Age	M = 20.7, SD = 3.39
Number of years in Canada	M = 13.2, SD = 8.28
Ethnicity	
East Asian and Southeast Asian	175 (47.6%)
Euro-Caucasian	119 (32.4%)
South Asian	22 (6.0%)
Central Asian and Middle Eastern	18 (4.9%)
Hispanic	6 (1.6%)
African	5 (1.4%)
First Nations	3 (0.8%)
Did not respond	1 (0.3%)
Country of birth	
Canada and United States	200 (54.5%)
East and Southeast Asia	106 (28.9%)
Central Asia and Middle East	19 (5.2%)
Europe	14 (3.8%)
South Asia	12 (3.3%)
Africa	5 (1.4%)
Latin America	5 (1.4%)
Oceania	3 (0.8%)
Did not respond	3 (0.8%)
Current relationship status	
Monogamous, having sex with partner	98 (26.7%)
Monogamous, not having sex with partner	26 (7.1%)
Open relationship, having sex with one or more partners	6 (1.6%)
Single, having sex with one or more partners	53 (14.4%)
Single, not having sexual intercourse	182 (49.6%)
Did not respond	2 (0.5%)

M = mean; SD = standard deviation

in Table 2. A principal component analysis was conducted on the participants' responses on the SES items, which extracted two orthogonal components. The first component had an eigenvalue of 5.56 and explained 46.32% of the scale variance.

Items listed in Table 2 (items 4, 5, and 7–12) each had component loadings of greater than 0.50 for this component, while the remaining items (items 1–3 and 6) each had component loadings of less than 0.50. The second component had an eigenvalue of 1.58 and explained 13.15% of the scale variance. Items 1, 2, and 6 each had component loadings of greater than 0.50 for this item, while the remaining items each had component loadings of less than 0.50. The first component was therefore interpreted as sexually coercive behaviors and items 4, 5, and 7–12 were retained as measures of sexually coercive behavior. The second component was interpreted as general sexual interest and the remaining items were excluded.

Procedures

Recruitment for the study was done via a human subject pool system at the university, where the study could be accessed through a link to the online survey hosted on www.fluidsurveys.com. This study was presented to undergraduate students on the subject pool alongside a multitude of other unrelated psychology studies, of which the students could choose any that they wished. Students who participated in any of the studies on the subject pool received a bonus mark toward an undergraduate psychology course as compensation. Participants interested in this study were informed that they would be asked questions regarding their sexual experiences, attachment style, and beliefs and attitudes. Participants were also presented with information regarding

Table 2 Sexual coercion commission rates of participants measured by the Sexual Experiences Survey

	Yes	No	Did not respond
"Had sexual intercourse with a woman even though she didn't really want to because you threatened to end your relationship otherwise?"	14 (3.8%)	333 (90.7%)	20 (5.4%)
"Had sexual intercourse with a woman when she didn't really want to because she felt pressured by your continual arguments?"	25 (6.8%)	337 (91.8%)	5 (1.4%)
"Been in a situation where you used some degree of physical force (twisting her arm, holding her down, etc.) to try to make a woman engage in kissing or petting when she didn't want to?"	13 (3.5%)	348 (94.8%)	6 (1.6%)
"Been in a situation where you tried to get sexual intercourse with a woman when she didn't want to by threatening to use physical force if she didn't cooperate, but for various reasons intercourse did not occur?"	7 (1.9%)	354 (96.5%)	6 (1.6%)
"Been in a situation where you used some degree of physical force to try to get a woman to have sexual intercourse with you when she didn't want to, but for various reasons sexual intercourse did not occur?"	9 (2.5%)	352 (95.9%)	6 (1.6%)
"Had sexual intercourse with a woman when she didn't want to because you threatened to use physical force if she didn't cooperate?"	8 (2.2%)	354 (96.5%)	5 (1.4%)
"Had sexual intercourse with a woman when she didn't want to because you used some degree of physical force?"	7 (1.9%)	353 (96.2%)	7 (1.9%)
"Been in a situation where you obtained sexual acts with a woman such as anal or oral intercourse when she didn't want to by using threats or physical force?"	9 (2.5%)	353 (96.2%)	5 (1.4%)
Any sexually coercive behavior	31 (8.4%)	306 (83.4%)	30 (8.2%)

confidentiality, anonymity, and data security for their responses. Those who consented to the study by reading the online consent information and indicating that they agree to participate via an online form then completed the online questionnaire battery. After completion, they came into the laboratory where they were debriefed on the true purpose of the study and had an opportunity to discuss any questions or concerns. All procedures and methods were reviewed by and approved by the university's behavioral research ethics board.

Main Outcome Measures

The SES

SES [26] is a 12-item instrument that assesses the commission of sexually coercive acts. Participants are asked if they had engaged in specific sexually coercive acts, such as "Had sexual intercourse with a woman when she didn't want to because you used some degree of physical force." The reported Cronbach's alpha for this measure is 0.89. Our sample showed a Cronbach's alpha of 0.91.

The Improved Illinois Rape Myths Acceptance Scale

Illinois Rape Myths Acceptance Scale (IRMAS) [27] is a 22-item instrument that assesses level of endorsement of attitudes and beliefs that are supportive of sexual coercion. Items are specific beliefs, such as "When girls go to parties wearing slutty clothes, they are asking for trouble," which participants rate on a five-point scale. Higher scores represent greater rejection of rape myths. The reported Cronbach's alpha for the measure is 0.87. Our sample showed a Cronbach's alpha of 0.92.

The Hostility Towards Women Scale

Hostility Towards Women Scale (HTWS) [24] is a 30-item instrument that assesses hostile attitudes and behaviors toward women. Items are specific attitudes, such as "Many times a woman appears to care but just wants to use you", which participants rate their endorsement of on a true/false scale. Higher scores represent greater hostility toward women. Previous research has reported a Cronbach's alpha of 0.80 [28]. Our sample showed a Cronbach's alpha of 0.78.

The Likelihood of Rape Item

Likelihood of Rape Item (LRI) [25] is a single-item measure of interest and willingness to engage in rape. Participants rate their likelihood of forcing

sex on a woman if they knew that they would not face negative consequences, with higher scores indicating a greater willingness to commit rape.

The Brief Sexual Functioning Questionnaire

Brief Sexual Functioning Questionnaire (BSFQ) [29] is a 21-item self-report measure of male sexual functioning, designed to examine four aspects of sexual functioning: sexual activity/ performance, sexual interests, sexual satisfaction, and physiological competence. Items are presented in a multiple-choice format, ranging from 0 to 6, with lower scores indicating higher levels of sexual dysfunction. The measure has good test-retest reliability and concurrent validity with other sexual functioning measures. In our sample, the Cronbach's alpha of the overall index of sexual functioning was 0.91.

The Dysfunctional Sexual Beliefs

Questionnaire—Male Version

Dysfunctional Sexual Beliefs Questionnaire—Male Version (DSBQ) [20] is a 40-item self-report instrument that assesses the endorsement of dysfunctional beliefs, attitudes, and expectations about sexuality. Items are specific beliefs, such as "Sex is meant only for procreation," which participants rate on a five-point scale. Higher scores show greater endorsement of dysfunctional sexual beliefs. This instrument has a reported Cronbach's alpha of 0.93, while our sample showed a Cronbach's alpha of 0.90.

The Experiences in Close Relationships

Scale—Revised

Experiences in Close Relationships Scale—Revised (ECR-R) [30] is a 36-item self-report instrument for assessing adult attachment style orientation. Items consist of statements related to experiences, emotions, and cognitions related to intimate partners, which participants rate on a seven-point scale. Responses are separated into two subscales, attachment anxiety and attachment avoidance, with higher scores indicating less secure attachment. The ECR-R is a widely used measure of attachment style [31] and has good psychometric properties [32]. In our sample, both the anxiety and avoidance subscales had a Cronbach's alpha of 0.94.

The Marlowe–Crowne Social Desirability

Scale—13-Item Version

Marlowe–Crowne Social Desirability Scale—13-Item Version (MCSDS) [33,34] is an instrument designed to assess levels of distortion in self-report

Table 3 Means and standard deviations of study measures

	Overall		Sexually coercive		Noncoercive	
	M	SD	M	SD	M	SD
ECR—Anxiety	61.97	22.00	71.63	20.50	61.13	21.85
ECR—Avoidance	54.73	19.04	60.27	21.05	54.09	18.82
BSFQ	43.16	16.93	46.55	14.20	42.75	17.18
DSBQ	70.34	16.66	80.30	19.99	69.34	16.10
IRMAS	78.99	15.14	73.83	19.14	79.61	14.77
HTWS	9.69	5.03	13.24	4.55	9.43	4.97
LRI	1.41	0.85	2.29	1.30	1.32	0.73
SES	0.26	1.09	2.77	2.46	—	—
MCSDS	5.92	2.75	5.17	2.85	6.00	2.75

BSFQ = Brief Sexual Functioning Questionnaire; DSBQ = Dysfunctional Sexual Beliefs Questionnaire—Male Version; ECR = Experiences in Close Relationships Scale; HTWS = Hostility Towards Women Scale; IRMAS = Illinois Rape Myths Acceptance Scale; LRI = Likelihood of Rape Item; M = mean; MCSDS = Marlowe–Crowne Social Desirability Scale—13 Item Version; SD = standard deviation; SES = Sexual Experiences Survey—Male/Perpetrator Form

responses for the purpose of positive self-representation. Items are behaviors in a variety of contexts, such as “No matter who I’m talking to, I’m always a good listener,” which participants rate as true or false. Higher scores represent greater social desirability responding. This instrument has a reported Cronbach’s alpha of 0.76. In our sample, it had a Cronbach’s alpha of 0.65.

Results

Means and standard deviations of each measure are presented in Table 3. Pearson’s r correlations were conducted between attachment style, dysfunctional sexual beliefs, sexual coercion proclivity, and sexual functioning variables. Bonferroni corrections were used to set the alpha level to $P=0.0125$. Higher BSFQ scores were significantly positively correlated with IRMAS scores, but were not significantly correlated with other measures of sexual coercion proclivity or sexually coercive behaviors. Correlation coefficients are presented in Table 4.

Multiple regression analyses showed that ECR-R and DSBQ scores explained a significant proportion of the variance in HTWS scores ($_{adj}R^2=0.42$, $F[3, 238]=58.45$, $P<0.001$), LRI rating ($_{adj}R^2=0.15$, $F[7, 275]=17.82$, $P<0.001$), and SES scores ($_{adj}R^2=0.07$, $F[7, 259]=7.40$, $P<0.001$). In addition, ECR-R, DSBQ, and BSFQ scores explained a significant proportion of the variance in acceptance of rape myths ($_{adj}R^2=0.29$, $F[4, 267]=18.40$, $P<0.001$). Regression coefficients are presented in Table 5.

Path analyses, conducted using the lavaan 0.5–11 software package [35] on the R platform (The lavaan package was developed by Yves Rosseel, at Ghent University, Ghent, Belgium

[35]), were used to further investigate the interrelation between these variables. Figure 1 shows a diagram of the path model and standardized estimated path coefficients. The model passed the chi-square test of fit ($\chi^2[2]=3.99$, $P=0.136$) and showed good fit via the comparative fit index (CFI=0.99) and the standardized root mean of square residual (SRMR=0.02). Figure 2 shows a more restricted path model where paths with $P>0.06$ were removed. The nested model also passes the chi-square test of fit ($\chi^2[11]=17.60$, $P=0.091$) and showed good fit via approximate fit indices (CFI=0.98, SRMR=0.05). The chi-squared difference test showed that the nested model did not have significantly worse fit ($\chi^2[9]=13.61$, $P=0.137$).

Controlling for social desirability within both the regression and path models did not alter the pattern of relationships between the variables. Sexually coercive and noncoercive participants also did not significantly differ in their MCSDS scores ($t[319]=1.54$, $P=0.124$).

Given the ethnic diversity seen in the sample, the above analyses were re-run separately in the two major ethnic groups: Caucasian and East Asian participants. The overall patterns of associations among the variables did not differ substantially between the two subsamples.

Discussion

Our results reveal a significant association between sexual coercion proclivity and dysfunctional sexual beliefs. Dysfunctional sexual beliefs were significantly correlated with increased rape myth acceptance, hostility toward women, interest in rape, and sexually coercive behaviors. These results suggest that in our population, while sexual

Table 4 Pearson's *r* correlations between attachment style, sexual functioning, sexual beliefs, and sexual coercion variables in all participants

	ECR—Avoidance	BSFQ	DSBQ	IRMAS	HTWS	LRI	SES
ECR—Anxiety	$r = 0.34, P < 0.001^*$	$r = -0.27, P = 0.001^*$	$r = 0.27, P < 0.001^*$	$r = -0.23, P = 0.001^*$	$r = 0.54, P < 0.001^*$	$r = 0.24, P = 0.004^*$	$r = 0.12, P = 0.044$
ECR—Avoidance		$r = -0.19, P = 0.004^*$	$r = 0.23, P < 0.001^*$	$r = -0.24, P < 0.001^*$	$r = 0.34, P < 0.001^*$	$r = 0.13, P = 0.023$	$r = 0.14, P = 0.015$
BSFQ			$r = -0.16, P = 0.011^*$	$r = 0.18, P = 0.007^*$	$r = -0.10, P = 0.153$	$r = -0.04, P = 0.543$	$r = 0.08, P = 0.247$
DSBQ				$r = -0.45, P < 0.001^*$	$r = 0.43, P < 0.001^*$	$r = 0.35, P < 0.001^*$	$r = 0.22, P < 0.001^*$
IRMAS					$r = -0.41, P < 0.001^*$	$r = -0.24, P < 0.001^*$	$r = -0.18, P = 0.002^*$
HTWS						$r = 0.27, P < 0.001^*$	$r = 0.20, P < 0.001^*$
LRI							$r = 0.36, P < 0.001^*$

n = 208

*Indicates significant correlation, $P < 0.0125$

BSFQ = Brief Sexual Functioning Questionnaire; DSBQ = Dysfunctional Sexual Beliefs Questionnaire—Male Version; ECR = Experiences in Close Relationships Scale; HTWS = Hostility Towards Women Scale; IRMAS = Illinois Rape Myths Acceptance Scale; LRI = Likelihood of Rape Item; SES = Sexual Experiences Survey—Male/Perpetrator Form

functioning per se may not be strongly correlated with sexual coercion, factors associated with sexuality, such as dysfunctional sexual beliefs, are important predictors. We also found a significant relationship between insecure attachment styles and sexual coercion proclivity. Both higher anxious and avoidant attachments were significantly correlated with higher rape myth acceptance and hostility toward women, while higher anxious attachment was also significantly correlated with greater interest in rape.

In addition, our study is the first to show a significant relationship between insecure attachment style and sexual functioning in men, with both attachment anxiety and attachment avoidance being significantly correlated with poorer sexual functioning. Previous studies have demonstrated this effect consistently in women. For example, women displaying higher anxious attachment had lower levels of sexual satisfaction, sexual intimacy, orgasmic responsivity, and sexual arousal, while those with higher attachment avoidance showed impairment in sexual intimacy [18]. Higher levels of anxious and avoidant attachment were correlated with lower overall sexual functioning and sexual satisfaction in female undergraduate students [19]. The current results are the first to report that a similar pattern exists in at least some populations of men. This finding shows the importance of further research to understand the influence of insecure attachment on male sexual dysfunctions, even in those men for whom sexual coercion is not a clinically relevant concern.

Our path model further elaborates on the interrelation between attachment style, sexual beliefs, and sexual coercion proclivity outcome measures. Anxious attachment appears to be significantly associated with dysfunctional sexual beliefs, which in turn is significantly related to interest in engaging in rape. Dysfunctional sexual beliefs therefore appear to mediate partially the association between anxious attachment and LRI, while LRI fully mediates the association between dysfunctional sexual beliefs and sexually coercive behaviors. Rape myths acceptance and hostility toward women also appear to be strongly associated with dysfunctional beliefs and showed less of a correlation with insecure attachment. However, rape myths acceptance and hostility toward women do not seem to be significantly correlated with interest in rape or sexually coercive behaviors beyond their shared association with dysfunctional sexual beliefs and attachment style.

Table 5 Coefficients of regression of sexual coercion proclivity variables on attachment style, dysfunctional sexual beliefs, and sexual functioning

	ECR—Anxiety	ECR—Avoidance	DSBQ	BSFQ
HTWS	$\beta = 0.44, P < 0.001^*$	$\beta = 0.14, P = 0.008^*$	$\beta = 0.29, P < 0.001^*$	
LRI	$\beta = 0.16, P = 0.010^*$	$\beta = 0.01, P = 0.862$	$\beta = 0.33, P < 0.001^*$	
SES	$\beta = -0.02, P = 0.784$	$\beta = 0.103, P = 0.111$	$\beta = 0.24, P < 0.001^*$	
IRMAS	$\beta = -0.03, P = 0.658$	$\beta = -0.09, P = 0.205$	$\beta = -0.47, P < 0.001^*$	$\beta = 0.13, P = 0.058$

*Indicates significant regression coefficient, $P < 0.0125$

BSFQ = Brief Sexual Functioning Questionnaire; DSBQ = Dysfunctional Sexual Beliefs Questionnaire—Male Version; ECR = Experiences in Close Relationships Scale; HTWS = Hostility Towards Women Scale; IRMAS = Illinois Rape Myths Acceptance Scale; LRI = Likelihood of Rape Item; SES = Sexual Experiences Survey—Male/Perpetrator Form

In our university sample of men, we did not find a significant correlation between sexual functioning and sexually coercive behaviors nor did we find a significant relationship between sexual function-

ing and hostility toward women or interest in engaging in rape. In this way, our findings diverge from that of Carvalho et al. [3]. We did find an association between sexual functioning and

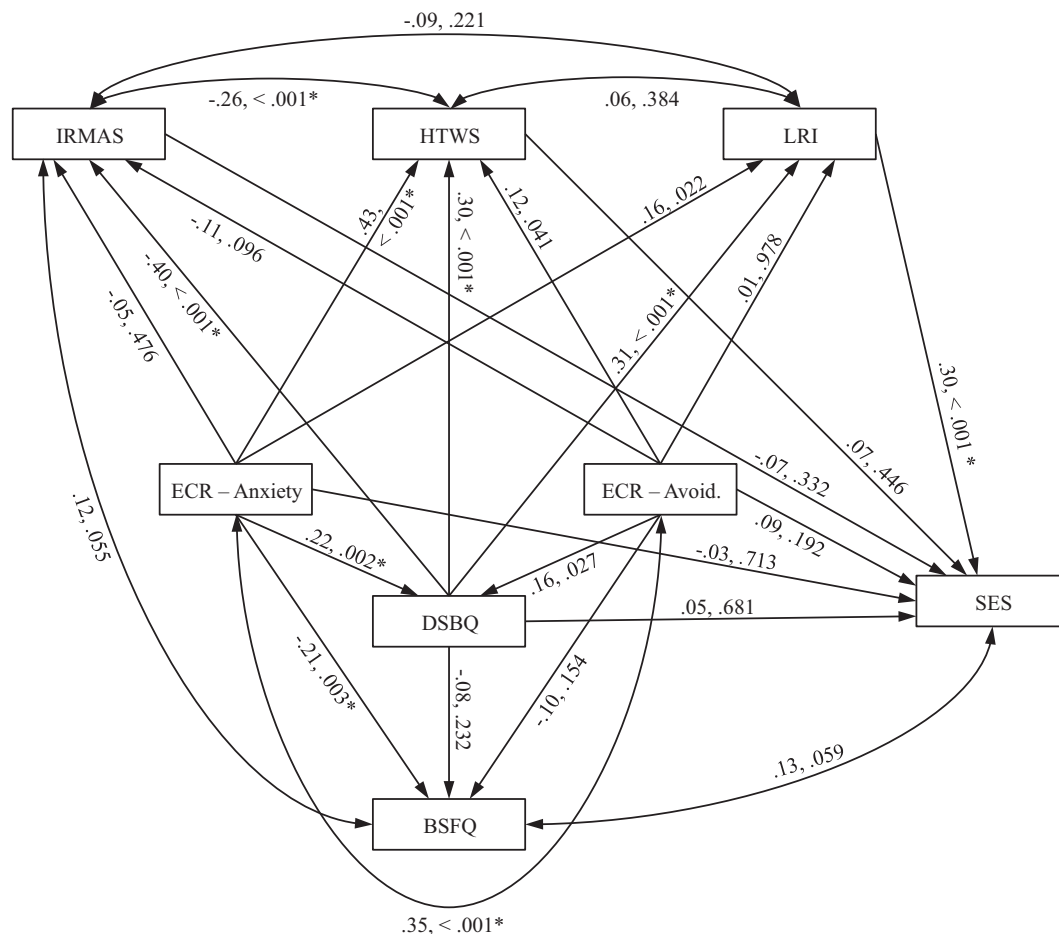


Figure 1 Path analysis model of sexual coercion proclivity, sexual functioning, attachment style, and dysfunctional sexual beliefs variables. Path estimates represented as β (or r), P . $n = 208$. * indicates significant regression/correlation coefficient, $P < 0.0125$. BSFQ = Brief Sexual Functioning Questionnaire; Comment [norefbib12]: AUTHOR: References 33 and 34 (originally 28 and 31) have not been cited in the text. Please indicate where they should be cited; or delete from the Reference List. DSBQ = Dysfunctional Sexual Beliefs Questionnaire—Male Version; ECR = Experiences in Close Relationships Scale; HTWS = Hostility Towards Women Scale; IRMAS = Illinois Rape Myths Acceptance Scale; LRI = Likelihood of Rape Item; SES = Sexual Experiences Survey—Male/Perpetrator Form

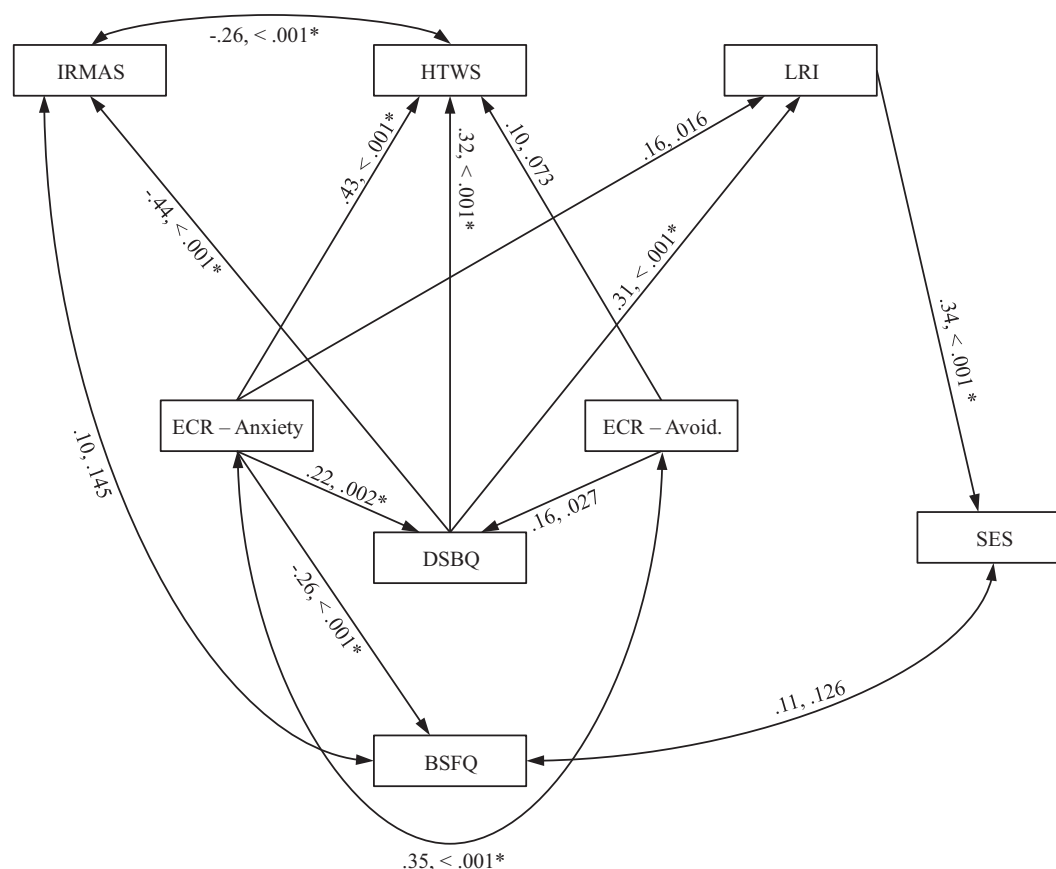


Figure 2 Restricted path analysis model of sexual coercion proclivity, sexual functioning, attachment style, and dysfunctional sexual beliefs variables. Path estimates represented as β (or r), P , $n = 208$. * indicates significant regression/correlation coefficient, $P < 0.0125$. BSFQ = Brief Sexual Functioning Questionnaire; DSBQ = Dysfunctional Sexual Beliefs Questionnaire—Male Version; ECR = Experiences in Close Relationships Scale; HTWS = Hostility Towards Women Scale; IRMAS = Illinois Rape Myths Acceptance Scale; LRI = Likelihood of Rape Item; SES = Sexual Experiences Survey—Male/Perpetrator Form

acceptance of rape myths, though this relationship was attenuated by controlling for attachment style and dysfunctional sexual beliefs. This latter pattern suggests that a connection between sexual functioning and sexual coercion proclivity, if it exists, is likely due to a shared association with more distal predictor variables.

The lack of a strong association between sexual functioning and sexually coercive behaviors in our study compared with past studies is likely due to differences in the populations investigated. Most previous studies in this area have examined incarcerated sex offenders, including both rapists and child molesters. Also, only 8.4% of our participants reported having engaged in sexually coercive behaviors, while the student sample of Carvalho et al. [3] reported almost three times as many (21.7%). It is possible that cultural differences between our populations contributed to different

patterns. Varying levels of social prohibitions against sexual coercion between cultures may encourage different degrees of inhibition against such behaviors. It is also possible that, despite controlling for social desirability responding, social prohibitions or other contextual factors may cause differences in the level of willingness to disclose commission of sexual coercion.

The current study also expands on the understanding of relationships between different aspects of sexual coercion proclivity. Rape myth acceptance and hostility toward women showed greater associations with each other than with the likelihood of rape item and sexually coercive behaviors. In addition, attachment style and dysfunctional sexual beliefs explained a larger proportion of the variance in rape myth acceptance and hostility toward women than in likelihood of rape and sexually coercive behaviors. Since the IRMAS and

HTWS reflect more overt cognitions and beliefs, while the LRI may target less conscious sexual interests, it is perhaps unsurprising that cognition-oriented measures such as the DSBQ would be more predictive of scores on the former measures.

Overall, these findings suggest that distal factors, such as attachment style, may make some men more vulnerable to general cognitive-emotional disturbances including dysfunctional sexual beliefs. The difficulties with romantic partners, fear of intimacy, sensitivity to abandonment, and poor relationship satisfaction that is predicted by insecure attachment specifically may foster or perpetuate negative beliefs about women and sexuality. These dysfunctional beliefs in turn may facilitate the adoption of more specific beliefs, emotions, and interests that are consistent with the commission of sexual coercion. Interest in engaging in rape appears to be the strongest direct predictor of sexual coercion, most likely alongside contextual factors like disinhibition or emotional dysregulation. Rape myths acceptance and hostility toward women are important factors in many situations, but are not predictive of sexual coercion beyond interest in engaging in rape as they alone may not represent a sufficiently strong motivation toward engaging in a socially unacceptable behavior. Sexual functioning is also negatively predicted by attachment style. However, sexual functioning appears to contribute only as a minor pathway to sexual coercion proclivity or may be important only in a particular subset of perpetrators.

The current study has several limitations. As a cross-sectional correlational study, the direction of causality of any effects can only be hypothesized. For instance, it is also possible that engaging in sexually coercive behaviors shapes the cognitions, emotions, and beliefs of male perpetrators with regard to women and sexuality, and may also potentially alter attachment style. This study also did not control for the possible influence of substance use or psychopathology, which are often important factors in the commission of sexual offending and are known to be affected by factors such as attachment style [36]. Associations between substance use or general psychopathology with sexual coercion behaviors may represent another mechanism by which distal developmental factors like attachment style can influence proximate behaviors. Also, the current study was limited to men having sex with women. Sexual coercion is also a prevalent issue among nonheterosexual relationships, and both men and

women are also capable of being aggressors or victims. Finally, cultural norms in our particular population, the use of a university student sample, and other contextual factors can have a substantive influence on the variables measured. Like all single-sample studies, consideration for these factors must be made before applying any generalizations to other populations.

In-depth longitudinal studies, which may involve following college men over the course of their time in university, will be necessary to test both the predictive value and directionality of our interpretations. Additional investigation into the specific details of our proposed mechanisms, such as how attachment style become associated with specific cognitions and attitudes related to sexual coercion, will also be needed to support or modify our models. Attempts to replicate these findings in other cultures (including non-university samples) will also be particularly important when attempting to generalize the existing findings. Finally, translational work to understand which factors are most amenable to intervention, and the effectiveness of such interventions in reducing sexual coercion, will be needed.

Conclusions

This study is one of the first to investigate the role of attachment style and dysfunctional sexual beliefs on sexual coercion in an integrated manner within a non-forensic population. By building an understanding of how these and other factors contribute to the development and maintenance of sexual coercion proclivity in young men, more effective identification of and interventions for sexual coercion perpetrators can be conducted, particularly in university populations. These findings potentially encourage the development of policy, advocacy, and clinical interventions that target attachment difficulties and dysfunctional sexual beliefs alongside cognitive and affective aspects of sexual coercion proclivity.

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Conflict of Interest: The authors report no conflicts of interest.

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